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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/808,973	03/16/2001	Robert V. Belenger	79485	4677

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Office of Counsel, Bldg 112T
Naval Undersea Warfare Center Division
1176 Howell Street
Newport, RI 02841-1708

EXAMINER

CHAU, COREY P

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 04/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/808,973

Applicant(s)

BELENGER ET AL.

Examiner

Corey P Chau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12, 14, 15 and 17-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13 is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-11, 14, 15 and 17-23 is/are rejected.
- 7) ☒ Claim(s) 5, 6 and 12 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 1, 13, and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the volume" in line 2.

Claim 13 recites the limitation "the volume" in line 2.

Claim 14 recites the limitation "the volume" in line 2.

There is insufficient antecedent basis for this limitation in the claims.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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3. Claims 1, 2, 3, 4, 7, 8, 9, 10, 11, 14, 15, 17, 18, 19, 20, 21, 22, and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6584201 to Konstantinou et al. (hereafter as Konstantinou).

4. Regarding Claim 1, Konstantinou discloses a system for automatically adjusting a sound level comprising a sound-emitting device providing a sound level; a directional microphone (i.e. sensor circuit) for sensing the sound level (i.e. amplitude of the detected audio signal) (Fig. 1, reference 22; column 3, lines 24-28; claim 1); a microprocessor that calculates a difference between a calculated reference sound-to-noise ratio and a calculated current sound-to-noise ratio, whereby "the sound-to-noise ratio is a ratio in which received sound level is the numerator and the difference between total received noise level and received sound level is the denominator" (i.e. a difference circuit) (column 5, lines 11-59); the microprocessor then goes to a decision step to determine whether the current sound-to-noise ratio is different from the reference sound-to-noise ratio, "if there is a difference between the two sound-to-noise ratio, this signifies that emitted sound level may need to be adjusted in order to maintain the original sound-to-noise ratio" (i.e. control circuit for generating a control signal that effects at least one of attenuation, augmentation and maintenance of the amplitude of audio signals) (column 5, lines 43-59). On page 19, lines 1-3 and lines 23-24, Applicants argue "Konstantinou makes no provision for user input", however this argument is not persuasive because Konstantinou discloses a microprocessor located in the remote control device which utilizes the received sound level and the total received noise level to calculate a reference sound-to-noise ratio. If a volume up/down

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control is pressed by the operator (i.e. user input), the remote control device sends the appropriate signal to the sound emitting device to increase or decrease the sound level, and a new reference sound-to-noise ratio is calculated (i.e. obtaining a reference audio signal amplitude from a user) (abstract).

5. Regarding Claim 2, Konstantinou discloses amplifiers (Fig 1, reference 14 and 16) coupled to the microphones in order to amplify the signal provided by the microphones and sends them to the microprocessor (i.e. amplifier for amplifying the detected audio signal before it is outputted to the difference circuit) (column 3, lines 49-58).

6. Regarding Claim 3, Konstantinou disclose a directional microphone for detecting audio signals outputted by the sound-emitting device (Fig. 1, reference 22).

7. Regarding Claim 4, Konstantinou discloses amplifiers coupled to the microphones in order to amplify the signal provided by the microphone and sends them to the microprocessor via A/D converter (i.e. provides the audio signal amplitude in digital form) (Fig 1, reference 62 and 64).

8. Regarding Claim 7, Konstantinou discloses an apparatus that will increase or decrease emitted sound level in order to maintain the original sound-to-noise ratio if there is a difference between the current sound-to-noise ratio and reference sound-to-noise ratio by a predetermine amount (i.e. attenuation of amplitude when amplitude of the sensor circuit output signal exceed the reference audio signal amplitude by a predetermine magnitude) (Fig. 2, reference 140, 150 and 155; column 5, lines 49-52; column 6, lines 32-39).

9. Regarding Claim 8, Konstantinou discloses an apparatus that will increase or decrease emitted sound level in order to maintain the original sound-to-noise ratio if there is a difference between the current sound-to-noise ratio and reference sound-to-noise ratio by a predetermine amount (i.e. augmentation of the amplitude of the audio signals generated by the audio device when the reference audio signal amplitude exceeds the amplitude of the sensor circuit output signal by a predetermined magnitude) (Fig. 2, reference 140, 150 and 155; column 5, lines 49-52; column 6, lines 32-39).

10. Regarding Claim 9, Konstantinou discloses an apparatus that will maintain the amplitude of the audio signal if there is no difference between the current sound-to-noise ratio and the reference sound-to-noise ratio. (Fig. 2, reference 140; column 5, lines 46-48).

11. Regarding Claim 10, Konstantinou discloses a remote control device that contains a signal transmitter, which communicates with the volume up control and volume down control to transmit signal to sound emitting device (i.e. transmitter circuit to transmitting the control signal to a control signal receiver of the audio device) (Fig. 1, reference 18,20, 30, and 34; column 4, lines 33-37 and lines 49-56).

12. Regarding Claim 11, Konstantinou discloses activation or deactivation of the remote control device (i.e. permits a user to activate or deactivate the apparatus) (column 4, lines 61-62).

13. Regarding Claim 14, Konstantinou discloses a method of automatically adjusting a sound level of a sound-emitting device comprising the steps of measuring a sound

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level emitted from the sound-emitting device using a directional microphone (i.e. detecting an audio signal generated by the audio device; generating a detected audio amplitude signal representative of an amplitude of the detected audio signal) housed in a remote control device operable by a user to manually increase or decrease the sound level (i.e. obtaining a reference audio signal amplitude from a user); calculating a reference sound-to-noise ratio (sound level divided by the different between the total received noise level and the sound level) and a current sound-to-noise ratio (measured sound level divided by the difference between the measured total received noise level and the measured sound level); and adjusting the sound level when the current sound-to-noise ratio does not equal the reference sound-to-noise ratio (i.e. determining a difference signal and generating a control signal that adjusts the volume) (column 5, lines 11-59; claim 7).

14. Regarding Claim 15, Konstantinou discloses amplifying the detected sound level (Fig 1, reference 14 and 16; column 3, lines 49-58).

15. Regarding Claim 17, Konstantinou discloses an analog-to-digital converter to convert the sound level to a digital sound level (Fig 1, reference 62 and 64).

16. Regarding Claim 18, Konstantinou discloses calculating a reference sound-to-noise ratio and current sound-to-noise ratio; and adjusting the sound level when the current sound-to-noise ratio does not equal said reference sound-to-noise ratio.

17. Regarding Claim 19, Konstantinou discloses transmitting a remote signal to the sound-emitting device to instruct the sound-emitting device to adjust the sound level.

18. Regarding Claim 20, Konstantinou discloses a method that will increase or decrease emitted sound level in order to maintain the original sound-to-noise ratio if there is a difference between the current sound-to-noise ratio and reference sound-to-noise ratio by a predetermine amount (Fig. 2, reference 140, 150 and 155; column 5, lines 49-52; column 6, lines 32-39).

19. Regarding Claim 21, Konstantinou discloses a method that will increase or decrease emitted sound level in order to maintain the original sound-to-noise ratio if there is a difference between the current sound-to-noise ratio and reference sound-to-noise ratio by a predetermine amount (Fig. 2, reference 140, 150 and 155; column 5, lines 49-52; column 6, lines 32-39).

20. Regarding Claim 22, Konstantinou discloses a method that will maintain the amplitude of the audio signal if there is no difference between the current sound-to-noise ratio and the reference sound-to-noise ratio (Fig. 2, reference 140; column 5, lines 46-48).

21. Regarding Claim 23, Konstantinou discloses a directional microphone designed to receive sounds from a specific direction (i.e. acoustic signal sensor) and "is configured in a remote control device such that it is adjacent to and points in the same direction as remote signal transmitter, thus providing the greatest likelihood that directional microphone is pointing at sound-emitting device" (Fig. 1, reference 22 and 36; column 3, lines 24-35).

Allowable Subject Matter

22. Claims 5, 6 and 12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

23. Claim 13 is allowed.

The following is an examiner's statement of reasons for allowance:

Konstantinou discloses a system for automatically adjusting a sound level, which determines whether emitted sound level from a sound-emitting device is greater or less than a threshold amount in order for the function of increasing or decreasing emitted sound to perform as usual or not. However Konstantinou does not expressly disclose how the sound level would be used to perform the operation of automatically adjusting the sound level or not. Therefore a sound activation circuit for transferring the difference signal to the control circuit when the directional microphone detects an audio signal is neither anticipated nor made obvious by the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Corey P Chau whose telephone number is (703)305-0683. The examiner can normally be reached on Monday - Friday 9:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W Isen can be reached on (703)305-4386. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

April 5, 2004

Julian
SAB, Art Unit 2644